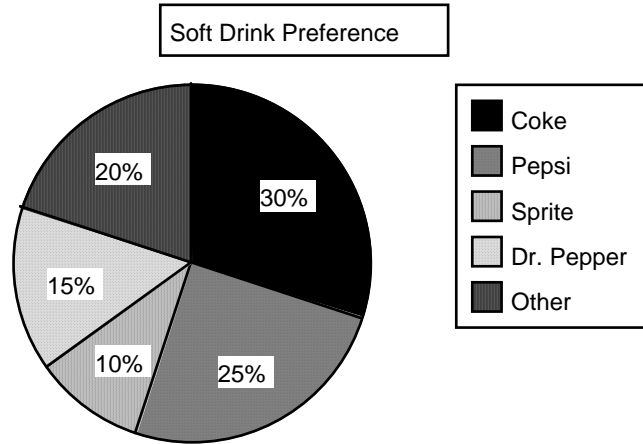


# Chapter 3: Graphical Methods for Describing Data

## Section 3.1-3.2

Name \_\_\_\_\_

1. The pie chart below summarizes the results of a survey of 300 randomly selected students at a particular high school. The investigators asked about soft drink preferences at a local high school.



- (a) How many out of the 300 students indicated a preference for Dr. Pepper?
- (b) Write a few sentences summarizing the soft drink preference for this sample of students.
- (c) Using the information in the pie chart above, sketch a relative frequency bar chart for these data.

2. The article “New Rules Would Protect Students” (*USA Today*, June 16, 2010) reported the percentage of students who received loans to attend college that had defaulted on the loan within 3 years of when the student was scheduled to begin repayment of the loan. Information was given for public colleges, private non-profit colleges, and for-profit colleges.

	<b>Relative Frequency</b>		
<b>Loan Status</b>	<b>Public Colleges</b>	<b>Private Non-profit Colleges</b>	<b>For-Profit Colleges</b>
<b>Good Standing</b>	.928	.953	.833
<b>In Default</b>	.072	.047	.167

- a) Construct a comparative bar chart that would allow you to compare loan status for the three types of colleges.

- b) The article states “those who attended for-profit schools were more likely to default than those who attended public or private non-profit schools.” What aspect of the comparative bar chart supports this statement?

3. The stem plot below displays the weights (in ounces) of a random sample of tomatoes grown on a local farm

**Weights of Tomatoes (oz)**

2L		4	
2H			
3L		2	
3H		89	stem: ones
4L		13	leaf: tenths
4H		5589	
5L		11122334	
5H		668999	
6L		223344	
6H		5556	

- (a) Briefly describe the distribution of tomato weights.
- (b) What is the weight of the heaviest tomato in the sample?

4. Knowledge of where animals forage for food is essential for effective wildlife management and conservation. The data below are taken from a sample of foraging heights ( $m$ ) of Mountain Chickadees foraging in California. The data are taken from two different species of fir: the Douglas fir and the White fir.

Douglas: 22, 15, 16, 16, 16, 17, 17, 17, 18, 19, 19, 10, 10, 13, 13, 14  
6, 7, 7, 8, 8, 9, 3

White: 28, 25, 21, 21, 18, 18, 16, 14, 14, 15, 15, 15, 15, 12, 12, 13  
13, 11, 11, 8, 8, 7, 5, 3

- (a) Display these data using the a comparative (back-to-back) stem-and-leaf plot. Use the stems shown below, and be sure to include all information needed to compare the two distributions.

| 0L |

| 0H |

| 1L |

| 1H |

| 2L |

| 2H |

(b) Compare the distributions in part (a). What differences and similarities do you observe in the two distributions?

(c) When these birds are sampled to assess their health, they are captured in mist-nets, which are set to capture the birds at different heights. The mist nets are about 2 meters high, and directions must be given to the persons who set up the nets so that the mist-nets are positioned to capture the most birds. Based on the data from part (a) and your display in part (b), write a short paragraph describing the appropriate mist-net height in a forest region of Douglas firs and a forest region of White firs.